

IN THE CLAIMS:

1-123. (Cancelled)

124. (Previously Presented) A washing machine incorporating a purifier for collecting a pollutant present in polluted water by flocculating the pollutant with a flocculant, comprising:

an aspirator for sucking in the flocculant and air to mix the flocculant and the air with the polluted water and thereby produce flocks holding bubbles;

a separator for separating the flocks holding the bubbles from the polluted water; and

further comprising a motor for driving a washing tub or a pulsator arranged inside a washing tub to rotate, and the separator has a cylindrical filter that is driven by the motor to rotate, the filter collecting the flocks from the polluted water flowing into the filter by centrifugal force and then discharging the polluted water cleared of the flocks through a peripheral surface of the filter.

125. (Cancelled)

126. (Previously Presented) A washing machine incorporating a purifier, comprising a water tub having a shape of a bottomed cylinder, a polluted water purifier that collects a pollutant present in washing wastewater by flocculating the pollutant to produce flocks and a separator for separating the flocks by filtering the flocks out,

wherein the separator is fitted detachably to the water tub.

127. (Original) A washing machine incorporating a purifier as claimed in claim 126, wherein the separator is fitted at an opening of the water tub.

128. (Original) A washing machine incorporating a purifier as claimed in claim 127, wherein the separator is formed out of a same member as a tub cover for preventing washing water from splashing over a rim of the water tub.

129. (Original) A washing machine incorporating a purifier as claimed in claim 127, wherein a recess is formed substantially at a center of the separator.

130. (Original) A washing machine incorporating a purifier as claimed in claim 126, wherein a rotatable washing tub is provided

inside the water tub, and a flow of air produced as the washing tub is rotated is kept in contact with the separator.

131. (Original) A washing machine incorporating a purifier as claimed in claim 130, wherein the separator is so formed as to protrude into the washing tub.

132. (Original) A washing machine incorporating a purifier as claimed in claim 126, wherein an attachment detector for detecting attachment of the separator is provided so that operation of the washing machine is controlled according to a result of detection by the attachment detector.

133. (Original) A washing machine incorporating a purifier as claimed in claim 126, further comprising:

a flock detector for detecting an amount of the flocks collected in the separator; and

alerting means for giving an alert according to a result of detection by the flock detector.

134. (Previously Presented) A washing machine incorporating a purifier, comprising a water tub having a shape of a bottomed cylinder and a polluted water purifier that collects a pollutant

present in washing wastewater by flocculating the pollutant to produce flocks and a separator for separating the flocks by filtering the flocks out,

wherein the separator is fitted detachably so as to cover the water tub from above an opening thereof.

135. (Original) A washing machine incorporating a purifier as claimed in claim 134, wherein a door is provided above the opening of the water tub, and the separator can be fitted to the door.

136. (Previously Presented) A washing machine incorporating a purifier comprising a polluted water purifier for purifying polluted water drained from a washing tub by removing a pollutant present in the polluted water, including means to circulate washing water halfway through a washing process from the washing tub through the polluted water purifier back to the washing tub, and

wherein an outer tub is provided so as to enclose the washing tub, and the washing water flows from inside the washing tub to a space between the washing tub and the outer tub so as to be purified by the polluted water purifier, with the washing water prevented from flowing from the space between the washing tub and the outer tub back into the washing tub.

137. (Cancelled)

138. (Previously Presented) A washing machine incorporating a purifier as claimed in claim 136, wherein the washing tub has increasing internal diameters toward an open end thereof.

139. (Original) A washing machine incorporating a purifier as claimed in claim 138, wherein an amount of washing water discharged from the washing tub is varied by controlling rotation of the washing tub.

140. (Original) A washing machine incorporating a purifier as claimed in claim 139, wherein, while the washing water is circulated, the washing tub repeats a cycle of forward rotation, sudden stop, reverse rotation, and sudden stop.

141. (Original) A washing machine incorporating a purifier as claimed in claim 136, wherein the washing water that has flowed into the space between the washing tub and the outer tub is agitated by the washing tub as the washing tub is rotated.

142. (Original) A washing machine incorporating a purifier as claimed in claim 136, wherein the washing water that returns to the washing tub is poured substantially onto a central portion of the washing tub.

143. (Original) A washing machine incorporating a purifier as claimed in claim 136, wherein, after the washing water stops being circulated, final rinsing is performed with tap water.

144. (Original) A washing machine incorporating a purifier as claimed in claim 136, wherein the polluted water purifier flocculates the pollutant with a flocculant to produce flocks and then collects the flocks.

145. (Previously Presented) A washing machine incorporating a purifier and provided with a washing process for removing dirt on laundry with washing water containing a detergent and a first rinsing process for removing the detergent from the laundry, comprising:

a reservoir section for storing washing water drained from said washing machine; and

a polluted water purifier for purifying the washing water by collecting a pollutant present in the washing water stored in the reservoir section by flocculating the pollutant,

wherein the washing water used in the washing process and rinsing water used in the first rinsing process is stored together in the reservoir section and is purified simultaneously by the polluted water purifier.

146. (Original) A washing machine incorporating a purifier as claimed in claim 145, wherein the polluted water purifier first flocculates the pollutant with an inorganic flocculant and then flocculates again the flocculated pollutant by adding a polymer flocculant thereto.

147. (Original) A washing machine incorporating a purifier as claimed in claim 145, wherein a second rinsing process for performing rinsing with purified water obtained from the polluted water purifier is further provided.

148. (Original) A washing machine incorporating a purifier as claimed in claim 147, wherein a third rinsing process for performing, after the second rinsing process, rinsing with tap water is further provided.

149. (Previously Presented) A washing machine incorporating a purifier as claimed in claim 145, further comprising:

a washing tub that is rotatably supported and in which the laundry is placed; and

an outer tub enclosing the washing tub,

wherein a space between the washing tub and the outer tub constitutes the reservoir section.

150. (Previously Presented) A washing machine incorporating a purifier and provided with a washing process for removing dirt on laundry with washing water containing a detergent and a first rinsing process for removing the detergent from the laundry, comprising:

a reservoir section for storing washing water drained from said washing machine; and

a polluted water purifier for purifying the washing water by collecting a pollutant present in the washing water stored in the reservoir section by flocculating the pollutant,

wherein the washing water used in the washing process is purified by the polluted water purifier and is then used in the first rinsing process, and then rinsing water used in the first rinsing process is purified by the polluted water purifier.



151. (Original) A washing machine incorporating a purifier as claimed in claim 150, wherein the rinsing water used in the first rinsing process and the washing water used in the washing process and then purified is stored together in the reservoir section and is purified simultaneously by the polluted water purifier.

152. (Original) A washing machine incorporating a purifier, comprising a polluted water purifier for collecting a pollutant present in polluted water by flocculating the pollutant with a flocculant,

wherein the polluted water purifier comprises:

a mixer for mixing the polluted water with the flocculant and air;

an agitator for agitating the polluted water, containing the flocculant and the air, that flows into a cylindrical agitation chamber along an inner surface thereof by making the polluted water into a spiraling stream so that flocks formed by the flocculant hold bubbles; and

a separator, connected to the agitator, for temporarily storing the polluted water and for separating the flocks holding the bubbles.

153. (Original) A washing machine incorporating a purifier as claimed in claim 152, wherein the mixer has an aspirator for sucking in the flocculant and the air under a reduced pressure.

154. (Original) A washing machine incorporating a purifier as claimed in claim 152, wherein the agitation chamber is arranged upright and has a cylindrical mixing cylinder provided inside, and the polluted water, containing the flocculant and the air, first flows up as the spiraling stream along the inner surface of the agitation chamber and then flows down inside the mixing cylinder.

155. (Original) A washing machine incorporating a purifier as claimed in claim 154, wherein the mixing cylinder has a spiral fin composed of a plurality of serially coupled substantially rectangular plate-shaped members each having opposite sides thereof twisted at a predetermined angle.

156. (Original) A washing machine incorporating a purifier as claimed in claim 154, wherein the separator is formed integrally with and fitted detachably to the agitation chamber.

157. (Original) A washing machine incorporating a purifier as claimed in claim 152, wherein the separator has a reservoir section

for temporarily storing the polluted water and discharging the polluted water from a topmost section thereof and a filter section for filtering out the flocks contained in the polluted water that has flowed out of the reservoir section.

158. (Original) A washing machine incorporating a purifier as claimed in claim 157, wherein the reservoir section is arranged inside the filter section.

159. (Original) A washing machine incorporating a purifier as claimed in claim 157, wherein the filter section collects the flocks with a collecting member composed of a washing net.

160. (Original) A washing machine incorporating a purifier as claimed in claim 152, wherein a member arranged in a path of the polluted water has an inner wall thereof treated with non-cohesion treatment.

161. (Original) A washing machine incorporating a purifier, comprising a polluted water purifier for collecting a pollutant present in polluted water by flocculating the pollutant with a flocculant,

wherein the polluted water purifier comprises:

a polluted water tank for storing the polluted water;

a first mixer for mixing the polluted water with a primary flocculant to produce primary flocks,

a second mixer for mixing the polluted water containing the primary flocks with a secondary flocculant and air to produce secondary flocks;

an agitator for agitating the polluted water containing the flocculant and the air so as to make the secondary flocks grow larger, and

a separator for separating the secondary flocks thus grown,

wherein the polluted water tank, the first mixer, the second mixer, the agitator, and the separator are coupled in this order to form a circulation path that leads back to the polluted water tank.

162. (Original) A washing machine incorporating a purifier as claimed in claim 161, wherein the first mixer has an aspirator for sucking in the flocculant, a first adder for adding the flocculant in a predetermined amount, and a first agitating chamber, cylindrical in shape, for agitating the polluted water containing the flocculant by making the polluted water into a spiraling stream.

163. (Original) A washing machine incorporating a purifier as claimed in claim 162, wherein the first adder controls the amount in which the flocculant is added according to concentration, turbidity, or a pH value of the polluted water.

164. (Original) A washing machine incorporating a purifier as claimed in claim 161, wherein the second mixer has an aspirator for sucking in the flocculant to mix the flocculant with the polluted water containing the flocks, a second adder for adding the flocculant in a predetermined amount, and a sucker for sucking in the air.

165. (Original) A washing machine incorporating a purifier as claimed in claim 164, wherein the second adder controls the amount in which the flocculant is added according to concentration, turbidity, or a pH value of the polluted water.

166. (Original) A washing machine incorporating a purifier as claimed in claim 161, wherein the agitator is provided with a second agitation chamber cylindrical in shape and arranged upright and a mixing cylinder cylindrical in shape and arranged inside the second agitation chamber, and the polluted water, containing the

flocculant and the air, first flows up as a spiraling stream along an inner surface of the second agitation chamber and then flows down inside the mixing cylinder.

167. (Original) A washing machine incorporating a purifier as claimed in claim 166, wherein the mixing cylinder has a spiral fin composed of a plurality of serially coupled substantially rectangular plate-shaped members each having opposite sides thereof twisted at a predetermined angle.

168. (Original) A washing machine incorporating a purifier as claimed in claim 167, wherein the separator has a reservoir section for storing the polluted water and a bag-shaped net, arranged inside the reservoir section, for collecting the secondary flocks as the secondary flocks float on the polluted water.

169-173. (Cancelled)